Lecture 8: The Internet Service model and the Transport Layer

reading 2.1.4 - transport services provided by the internet
3.1-3.4 transport layer up to but not including reliability

homework 2 is due monday 2 pm
layered protocol model / protocol stack

Application

socket() - payload (data), remote host address, port
(local address, local port)

Transport

down: payload (data+transport header), address

Network
Best effort service (network layer)

delay / latency - jitter
throughput
packet loss - congestion related packet losses
packet loss - transmission errors, cosmic radiation
privacy
packet order guarantees
data corruption / integrity
Figure 3.1 ♦ The transport layer provides logical rather than physical communication between application processes.
Figure 3.3 ♦ Source and destination port-number fields in a transport-layer segment
Figure 3.2 ♦ Transport-layer multiplexing and demultiplexing

(source address, dest address, dest port, src port)
Figure 3.4 ♦ The inversion of source and destination port numbers
**Figure 3.5** Two clients, using the same destination port number (80) to communicate with the same Web server application.
Ethernet - Token Ring - ATM

end-to-end principle: do as much as possible at the edges
Figure 3.7  ♦ UDP segment structure
00110101
00001101
\textit{sum:} 01000011
11001101
\textit{cksum:} 00010000
\textit{1's comp:} 11101111
\textit{sum:} 11111111